

**REMARKS**

**Summary of the Office Action**

In the non-final Office Action of August 26, 2003 (the Office Action), claims 10-14 and 17-20 were rejected under 35 U.S.C. § 112, ¶2 as being indefinite for lack of sufficient antecedent basis for the term "the dispersion management system." Claims 10, 12, 17, 19 and 36-41 were rejected under 35 U.S.C. § 102 as anticipated by Nakazawa, Ele.Lett. 31, p.216 (1995). Claims 11, 13-14, 18, 20, 22-32 and 43-49 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakazawa in light of the known art.

**Summary of the Response to the Office Action**

Applicants have cancelled claim 39 without prejudice and amended claims 10-14, 17-20 and 36 to more clearly point out the features of the invention. Applicants note that claims 33-35 were previously canceled. Accordingly, claims 10-14, 17-20, 22-32, 36-38, and 40-49 are presently pending.

**Rejection of claims 10-14 and 17-20 under 35 U.S.C. § 112, ¶2**

Claims 10-14 and 17-20 were rejected under 35 U.S.C. § 112, ¶2 as being indefinite for lack of sufficient antecedent basis for the term "the dispersion management system." Applicants have amended the referenced claims to recite that "each unit cell is short in relation to the nonlinear length of the system." The nonlinear length is a parameter of optical fibers that is known to one skilled in the art. The unit cell being short in relation to the nonlinear length of the system is disclosed in the specification, for example, in first paragraph of page 3.

**Rejection of claims 10, 12, 17, 19 and 36-41 under 35 U.S.C. § 102**

Claims 10, 12, 17, 19 and 36-41 were rejected under 35 U.S.C. § 102 as anticipated by Nakazawa. Applicants respectfully traverse the rejections. Excepting claim 39 which has

been cancelled, the referenced claims, as amended, recite that “each unit cell is short in relation to the nonlinear length of the system.” Applicants respectfully submit that Nakazawa does not teach this limitation to the length of each unit cell.

Applicants submit, at least for the reasons above, that Nakazawa fails to teach or suggest all of the features of the claimed invention and that the rejected claims are allowable. Accordingly, Applicants respectfully request that the rejections of claims 10, 12, 17, 19 and 36-41 be withdrawn.

**Rejection of claims 11, 13-14, 18, 20, 22-32 and 43-49 under 35 U.S.C. § 103 (a)**

Claims 11, 13-14, 18, 20, 22-32 and 43-49 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Nakazawa in light of the known art. Applicants respectfully traverse the rejections.

With respect to claims 11, 13-14, 18, 20, 25, 27 and 43-49, applicants respectfully submit that that Nakazawa does not teach or suggest a combination wherein the pulses are substantially Gaussian in shape, as is claimed. Furthermore, it was not known in the art of the time to use Gaussian pulses in transmission of soliton or soliton-like pulses. Instead, it was known to use hyperbolic-secant-shaped pulses in transmission of soliton or soliton-like pulses. No suggestion otherwise is provided by Nakazawa or any other reference for using Gaussian pulses for transmitting solitons or soliton-like pulses. Since Nakazawa is directed to soliton transmission, one skilled in the art at the time of applicant’s invention would be directed toward using hyperbolic-secant-shaped pulses and, in fact, would be discouraged from using Gaussian pulses as claimed. Moreover, Nakazawa actually teaches away from non-soliton transmission (and thus teaches away from using Gaussian pulses), and clearly does not disclose or suggest using Gaussian pulses. (See column 3, first full paragraph and figure 3). Therefore, it would not have been obvious to a skilled artisan of the time to modify Nakazawa by using Gaussian pulses as claimed.

With respect to claims 22-32, applicants respectfully submit that that Nakazawa does not teach or suggest a combination wherein the optical pulses are of energy “greater than that for launching a soliton or soliton-like pulse in an equivalent uniform system with equal path average dispersion,” as is claimed. Furthermore, Nakazawa expressly teaches away from increased pulse energy by disclosing the pulse power and stating that the pulse amplitude “is the same as that of an average [or uniform system] soliton.” (See column 2, e.g., 5 and the accompanying paragraph). Therefore, it would not have been obvious to a skilled artisan of the time to modify Nakazawa by using pulses of increased energy as claimed.

Applicants submit, at least for the reasons above, that Nakazawa fails to teach or suggest all of the features of the claimed invention and that the rejected claims are allowable. Accordingly, Applicants respectfully request that the rejections of claims 11, 13-14, 18, 20, 22-32 and 43-49 be withdrawn.

In view of the foregoing and in order to streamline the prosecution of the present patent application, Applicants request timely allowance of all pending claims. Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicant’s undersigned representative to expedite the prosecution.

**Except** for issue fees payable under 37 C.F.R. §1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§1.16 and 1.17 which may be required,

including any required extension of time fees, or credit any overpayment to Deposit  
Account No. 50-0310. This paragraph is intended to be a **CONSTRUCTIVE PETITION  
FOR EXTENSION OF TIME** in accordance with 37 C.F.R. §1.136(a)(3).

Respectfully submitted,

**MORGAN, LEWIS & BOCKIUS LLP**

Dated: January 26, 2004

By: 

John D. Zele

Reg. No 39,887

**Customer No. 009629**  
**MORGAN, LEWIS & BOCKIUS LLP**  
1111 Pennsylvania Avenue, N.W.  
Washington, D.C. 20004  
Telephone: (202)739-3000  
Facsimile: (202)739-3001